

REMARKS

The claimed invention

The invention includes an in-line expansion tank. As fluid traverses a pipe within the tank, it may pass into and displace a diaphragm disposed outside of the pipe if the fluid pressure is greater than a tank pressure pushing the diaphragm against the pipe. When the fluid pressure decreases, the fluid passes from the diaphragm back into the pipe.

The claims have been amended to describe the progress of water through the tank, especially water that enters the space between the diaphragm and the pipe. The amendments to the claims are supported by the specification at page 7, lines 11-17.

Objection to the Figures

The Examiner objects to the drawings for not depicting the subject matter recited in claims 5, 23, and 28. These claims recite that a cross-sectional area of the first and second ends of the diaphragm is smaller than a cross-sectional area of a middle portion of a diaphragm. This feature is shown in figure 1, as described at page 5, lines 11-13. Applicant submits that the drawing meet the requirements of 37 C.F.R. 1.83(a).

Claim Objections

Claim 16 has been amended as requested by the Examiner.

Rejections under 35 U.S.C. § 103

Claims 1-4, 6-14, 16-22, 24-27, 29 and 31 stand rejected under 35 U.S.C. 103 as being unpatentable over Allewitz. Claims 1-14, 16-29 and 31 stand rejected under 35 U.S.C. 103 as being unpatentable over Bertagna. Applicant submits that both of these references fail to disclose or suggest a diaphragm tank having a central tube, wherein substantially all of a first portion of water entering a space between the diaphragm and the tube leaves the tank before a substantial amount of a second portion of water entering the space between the diaphragm and the tube after the first portion of water enters the tube, and before a substantial amount of the first portion of water leaves the tank, leaves the tank, as recited in claims 1, 9, 17, and 27. The Examiner states that the use of notches open to an end of the tube would be an obvious variation of the teachings of Allewitz or Bertagna and that this modification does not provide an advantage

or solve a stated problem. Applicant respectfully disagrees. The claims have been amended to clarify that water enters and leaves the tank substantially on a first-in, first-out basis, as discussed on page 7, lines 15-17 and page 9, lines 6-10. The grooves of Allewitz provide ample opportunity for earlier and later entering portions of water to mix in the middle of the tank. Bertagna discloses a closed hot water system for which the orderly circulation of water is not a necessity because water is never distributed directly to a user but rather is circulated to deliver heat (column 2, lines 32-38). Neither of these references disclose or suggest the desirability of operating a pressure tank to provide water to a user on a first-in, first-out basis. Applicant submits that claims 1-14, 16-29, and 31 are patentable in view of Allewitz and Bertagna, whether considered separately or in combination.

A petition for extension of time is included herewith. Please charge any fees associated with this filing, or apply any credits, to our Deposit Account No. 03-1721.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Valarie B. Rosen', is written over a horizontal line.

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